

REMARKS

Claims 32, 34-36, 38, and 40-62 are pending. Claims 32 and 56 have been cosmetically amended for clarification.

The withdrawal of the allowance of claims 32, 34-36, 38, 40-55, and 59-62 is noted.

The indication that claims 42, 48, 50-54, and 59 will be allowed if suitably amended as to form is acknowledged.

Claims 32, 34, 35, 38, 40, 41, 43-47, 49, 56-58, and 60-62 now stand rejected under 35 U.S.C. § 102(e) for anticipation by U.S. Patent No. 6,664,734 to Jasper, Jr. ("Jasper '734"). Claim 36 stands rejected under 35 U.S.C. § 103(a) for obviousness over a combination of Jasper '734 and U.S. Patent No. 6,525,695 to McKinzie, III ("McKinzie"). Claim 55 stands rejected for obviousness over a combination of Jasper '734 and U.S. Patent No. 6,175,337 to Jasper, Jr., et al. ("Jasper '337").

Beginning on page 2, the Action points to the two-layer structure depicted in Jasper '734's FIG. 9 and the three-dimensional structure depicted in FIG. 10, and argues that those structures include all of the features of pending independent claim 32, for example. That assertion is incorrect. For example, claim 32 as amended recites that "a DC biasing voltage is applied to the first metal layer indirectly via the further second bottom metal layer". (Underlining added.) This is described at, for example, page 5, line 4, of the International Publication, which notes that "The via connections are used for connecting the radiators of the first top layer with an additional (bottom) second metal layer . . . , and a DC biasing (control) voltage is applied between the two second metal layers to change the impedance of the (top) radiator array".

Jasper '734's FIG. 10 shows two layers of metal elements 23 and a metal ground plane 26, but Jasper '734 says nothing about a DC bias voltage applied to the first layer (uppermost in FIG. 10) indirectly via a further second bottom metal layer (the ground plane 26 in FIG. 10). The hand-wave discussion of DC biasing in Jasper '734 at col. 11, line 15, is simply not a disclosure of the claimed arrangement, and so the structure depicted in Jasper '734's FIG. 10 cannot anticipate claim 32 or any of its dependent claims.

Jasper '734's FIG. 9 shows only a layer composed of the metal elements 23 and a layer composed of the ground plane 26, and so FIG. 9 does not show even a "further second metal layer" and so *per force* cannot show DC biasing via the further second metal layer. In addition, claim 32 recites that "the first and second metal layers are disposed on opposite sides of the at least one ferroelectric layer". The Action reads the first and second metal layers on Jasper '734's metal elements 23 and the ferroelectric layer on the host ceramic material 25. At col. 9, lines 25-30, Jasper '734 describes its FIG. 9 as showing a "two-layer" structure, in which one layer is the array of elements 23. Thus, even Jasper '734 admits that the elements 23 in FIG. 9 are not "disposed on opposite sides" of the ferroelectric layer, and so the structure depicted in FIG. 9 cannot anticipate claim 32 or any of its dependent claims.

With respect to claim 56, that claim as amended recites that "at least one first metal layer and at least one second metal layer are patterned" and "the first and second metal layers comprise a respective number of radiators, and the radiators of the first and the second metal layers are differently shaped". As noted just above, Jasper '734's FIG. 9 shows only a layer of metal elements 23 and an unpatterned ground plane 26, and so the structure depicted in FIG. 9 does not include at least the noted features of claim 56 and its dependent claims.

The three-layer structure depicted in Jasper '734's FIG. 10 also does not include the noted features of claim 56 and its dependent claims. Even if the middle layer of metal elements 23 in FIG. 10 is considered a patterned second metal layer as recited by claim 56, FIG. 10's middle layer of elements is not differently shaped from the upper layer of metal elements 23. Such arrangements are depicted in Applicants' FIGs. 8 and 10, for example. Instead, Jasper '734's upper and middle layers are identical, at least according to the description of FIG. 10 at col. 9, ll. 41-50, of Jasper '734.

Because several features of independent claims 32 and 56 are not disclosed by Jasper '734 at all, let alone arranged as in those claims, the anticipation rejections of claims 32 and 56 and certain of their dependent claims must be reconsidered and withdrawn.

With respect to the obviousness rejections of claims 36 and 55, the deficiencies of Jasper '734 that are detailed above are not remedied by either McKinzie or Jasper

'337. Accordingly, the obviousness rejections also cannot stand due to a lack of a *prima facie* case.

It is believed that this application is in condition for allowance. If the Examiner has any questions, the undersigned attorney may be telephoned at the number given below.

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